WHAT IS CLAIMED:

1. A truncated α-crystallin polypeptide derived from a wild-type α-crystallin protein, wherein said truncated polypeptide lacks an N-terminal sequence present in said wild-type protein.

2. The truncated α-crystallin polypeptide of claim 1 wherein said N-terminal sequence is hydrophobic.

3. The truncated α-crystallin polypeptide of claim 2 wherein said N-terminal sequence precedes a common domain in said wild-type protein.

4. The truncated α-crystallin polypeptide of claim 1 wherein said N-terminal sequence comprises residues 1-51 of said wild-type protein.

5. The truncated α-crystallin polypeptide of claim 4 comprising the sequence set forth in SEQ ID NO: 3.

6. An isolated polypeptide comprising an amino acid sequence encoded by a nucleic acid that hybridizes, under stringent conditions, to the complement of a nucleic acid encoding the polypeptide of claim 1.

7. An isolated polypeptide comprising an amino acid sequence encoded by a nucleic acid that hybridizes, under stringent conditions, to the complement of a nucleic acid encoding the polypeptide of claim 4.

8. The polypeptide of claim 1 which is at least 70% identical to a polypeptide comprising the amino acid sequence set forth in SEQ ID NO: 1.

9. The polypeptide of claim 1 which comprises an amino acid sequence at least 80 % identical to a polypeptide comprising the amino acid sequence set forth in SEQ ID NO: 1 using a BLAST algorithm.

10. The polypeptide of claim 1 which comprises an amino acid sequence more than 90% identical to a polypeptide comprising the amino acid sequence set forth in SEQ ID NO: 1 using a BLAST algorithm.

11. The polypeptide of claim 1 further comprising a linker sequence at the N-terminus which is designed to enhance the solubility of said polypeptide.

12. An isolated nucleic acid encoding the truncated α-crystallin polypeptide of claim 1.

13. An isolated nucleic acid encoding the truncated α-crystallin polypeptide of claim 4.

14. An isolated nucleic acid that hybridizes, under stringent conditions, to the complement of a nucleic acid encoding the polypeptide of claim 1.

15. An isolated nucleic acid that hybridizes, under stringent conditions, to the complement of a nucleic acid encoding the polypeptide of claim 4.

16. The isolated nucleic acid of claim 12 that hybridizes, under stringent hybridization conditions, to the complement of a nucleic acid comprising the nucleotide sequence set forth in SEQ ID NO: 2 (Fig. 2).

17. The isolated nucleic acid of claim 15 that hybridizes, under stringent hybridization conditions, to the complement of a nucleic acid comprising the nucleotide sequence set forth in SEQ ID NO: 2 (Fig. 2).

18. An expression vector comprising:

(a) a nucleic acid encoding a small heat shock protein (sHSP); and

(b) a nucleic acid encoding a protein, polypeptide, or fragment thereof;

wherein said nucleic acids are operatively associated with an expression control sequence.

19. The expression vector of claim 18 wherein said sHSP is selected from the group consisting of a wild-type α-crystallin protein; a truncated α-crystallin polypeptide; thermophilic sHSP; a chimeric polypeptide comprising (a) a wild-type α–crystallin protein or a truncated α-crystallin polypeptide and (b) thermophilic sHSP; or combinations thereof.

20. The expression vector of claim 19 wherein said chimeric polypeptide comprises a truncated α-crystallin polypeptide and thermophilic sHSP.

21. The expression vector of claim 20 wherein said truncated α-crystallin polypeptide lacks an N-terminal sequence present in a wild-type α-crystallin protein.

22. The expression vector of claim 21 wherein said N-terminal sequence is hydrophobic.

23. The expression vector of claim 22 wherein said N-terminal sequence precedes a common domain in said wild-type protein.

24. The expression vector of claim 21 wherein said N-terminal sequence comprises residues 1-51 of said wild-type protein.

25. The expression vector of claim 21 comprising the sequence set forth in SEQ ID NO: 2.

26. A method of enhancing expression of a protein in a host cell comprising coexpressing said protein with a small heat shock protein (sHSP).

27. The method of claim 26 wherein said sHSP is selected from the group consisting of a wild-type α-crystallin protein; a truncated α-crystallin polypeptide; a thermophilic sHSP; a chimeric polypeptide comprising (a) a wild-type α-crystallin protein or a truncated α-crystallin polypeptide and (b) a thermophilic sHSP; and combinations thereof.

28. The method of claim 27 wherein said chimeric polypeptide comprises a truncated α-crystallin polypeptide and a thermophilic sHSP.

29. The method of claim 28 wherein said truncated polypeptide lacks an N-terminal sequence present in a wild-type protein.

30. The method of claim 29 wherein said N-terminal sequence is hydrophobic.

31. The method of claim 30 wherein said N-terminal sequence precedes a common domain in said wild-type protein.

32. The method of claim 29 wherein said N-terminal sequence comprises residues 1-51 of said wild-type protein.

33. The method of claim 32 wherein said truncated polypeptide comprises the sequence set forth in SEQ ID NO: 3.

34. A thermotolerant host cell genetically modified to express a small heat shock protein.

35. The host cell of claim 34 wherein said sHSP is selected from the group consisting of a wild-type α-crystallin protein; a truncated α-crystallin polypeptide; a thermophilic sHSP; a chimeric polypeptide comprising (a) a wild-type α-crystallin protein or a truncated α-crystallin polypeptide and (b) a thermophilic sHSP; and combinations thereof.

36. The host cell of claim 35 wherein said chimeric polypeptide comprises a truncated α-crystallin polypeptide and a thermophilic sHSP.

37. The host cell of claim 36 wherein said truncated polypeptide lacks an N-terminal sequence present in said wild-type protein.

38. The host cell of claim 37 wherein said N-terminal sequence is hydrophobic.

39. The host cell of claim 37 wherein said N-terminal sequence precedes a common domain in said wild-type protein.

40. The host cell of claim 37 wherein said N-terminal sequence comprises residues 1-51 of said wild-type protein.

41. The host cell of claim 40 wherein said truncated polypeptide comprises the sequence set forth in SEQ ID NO: 3.